

## REMARKS

### **I. Status of Claims**

Claims 1-5 and 7-17 are pending in this application. Claims 1 and 16 are currently amended.

Claims 1-5 and 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaller et al. (U.S. Patent 6,948,311) in view of Tashiro et al. (U.S. Patent 6,622,480).

Claims 7-9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaller et al. in view of Tashiro et al. as applied to claim 1 above, and further in view of Christen et al. (U.S. Patent 6,405,528).

The Applicant respectfully requests reconsideration of the rejections in view of the foregoing amendments and the following remarks.

### **II. Pending Claims**

Claims 1 and 16, the only independent claims, stand rejected under 35 USC 103(a) as allegedly being unpatentable over Schaller in view of Tashiro.

The Applicant respectfully submits that claim 1 is patentable over the cited references at least because it recites, *inter alia*, "...a setting section, wherein, when the comparing section determines that the pressure difference exceeds the pressure difference reference value, the setting section determines that particulate matter is not sufficiently burned and is likely to remain and sets the manner of adding fuel of the fuel adding device to intermittent fuel addition so that the temperature of the exhaust purifying mechanism is increased." (emphasis added)

The Applicant respectfully submits that claim 16 is patentable over the cited references at least because it recites, *inter alia*, "...setting the manner of adding fuel to intermittent fuel addition such that the temperature of the exhaust purifying mechanism is increased when it is determined that the pressure difference exceeds the pressure difference reference value and a setting section determines the particulate matter is not sufficiently burned and is likely to remain." (emphasis added)

In certain embodiments of the present invention, the pressure difference is compared with the pressure difference reference value  $D_p$  at a point in time when the PM accumulation amount  $PM_{sm}$  becomes less than or equal to the predetermined threshold value  $A$ . That is, the point in time for comparing the pressure difference is set based on the PM accumulation amount  $PM_{sm}$ . Therefore, the comparison of the pressure difference is performed when the accumulation amount of particulate matter is decreased by a certain amount. As a result, a state that may cause the temperature of the DPNR converter 26 to be excessively increased may be avoided. For example, abrupt oxidation of a large amount of particulate matter, caused by intermittent fuel addition, may be avoided.

In addition, when it is determined that the pressure difference exceeds the pressure difference reference value and a setting section determines the particulate matter is not sufficiently burned and is likely to remain, the manner of adding fuel to intermittent fuel addition is set such that the temperature of the exhaust purifying mechanism is increased.

The Office Action recognizes that Schaller fails to disclose setting and comparing sections/steps as claimed. For example, on page 3 of the Office Action, it is stated that, "Schaller et al., however, fail[s] to specifically disclose that in the setting section, the 'specific requirement' means that the pressure difference exceeds a pressure difference reference value; and that the predetermined point in time is a point in time at which an estimated accumulation amount of particulate matter in the exhaust purifying mechanism becomes equal to or less than a threshold value."

In order to address at least these deficiencies, the Office Action cites Tashiro; however, the Applicant respectfully submits that Tashiro does not cure the deficiencies of Schaller. More specifically, the Office Action states that "[i]t would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the teaching by Tashiro et al., in the apparatus and method of Schaller et al., since the use thereof would have been routinely practiced by those with ordinary skill in the art to save fuel and to protect a filter from thermal damage during its regeneration."

First, the Applicant respectfully submits that neither Schaller nor Tashiro support the position that it would have been obvious to one of ordinary skill in the internal combustion art at the time of the invention to modify Schaller to save fuel and to protect a filter from thermal

damage during tis regeneration. Rather, the Applicant respectfully submits that none of the cited references describe a exhaust purification apparatus/method as claimed in the inventions of claims 1 and 16 and that the Office Action is using hindsight to pick features of references without providing any reason in the prior art itself for making the alleged combination. See KSR Int'l Co. v. Teleflex, Inc., 127 S. Ct. 1727 (2007). Thus, the Applicant respectfully submits that the Office Action's conclusion of obviousness is based on improper hindsight reasoning.

Second, it appears that Schaller also teaches away from such a proposed modification in column 7, lines 22-25, where it states, "[i]t is advantageous if, after shutting off the additional fuel metering, it is periodically switched on and off again. By doing this, a decrease in the temperature during regeneration may be prevented." Thus, the alleged combination of the references is improper. Under current law, "[i]t is improper to combine references where the references teach away from their combination." (MPEP § 2145). These principles, as stated in the MPEP, are fully applicable under the PTO's recent Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in View of the Supreme Court Decision in KSR International Co. v. Teleflex Inc., OG Notices 06 Nov. 2007 ("Guidelines"). See Guidelines (referring to MPEP guidance, stating "See MPEP § 2145 concerning consideration of applicant's rebuttal evidence.").

Accordingly, it is respectfully submitted that neither Schaller nor Tashiro disclose the setting and comparing sections/steps of the inventions of Applicant's claims 1 and 16.

Therefore, the Applicant respectfully submits that, for at least these reasons, claims 1 and 16, as well as their dependent claims, are patentable over the cited references.

**III. Conclusion**

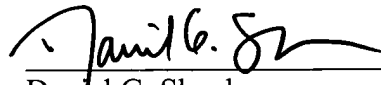
In light of the above discussion, the Applicant respectfully submits that the present application is in all aspects in allowable condition, and earnestly solicits favorable reconsideration and early issuance of a Notice of Allowance.

The Examiner is invited to contact the undersigned at (202) 220-4420 to discuss any matter concerning this application. The Office is authorized to charge any fees related to this communication to Deposit Account No. 11-0600.

Respectfully submitted,

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